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( Not for submission under 37 CFR 1.99)

Application Number	09684305
Filing Date	2000-10-06
First Named Inventor	Kaiser, et al.
Art Unit	1637
Examiner Name	Staples, M.
Attorney Docket Number	FORS-04447

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1	Hosfield, et al. "Newly Discovered Archaebacterial Flap Endonucleases Show a Structure-Specific Mechanism for DNA Substrate Binding and Catalysis Resembling Human Flap Endonuclease-1" <i>J. Biol. Chem.</i> , 1998, Vol. 273, No. 42, pp. 27154-61	<input type="checkbox"/>
2	Hosfield, et al. "Structure of the DNA Repair and Replication Endonuclease and Exonuclease FEN-1: Coupling DNA and PCNA Binding to FEN-1 Activity" <i>Cell</i> 95:135-146 (1996)	<input type="checkbox"/>
3	Huang, et al. "Role of Calf RTH-1 Nuclease in Removal of 5'-Ribonucleotides during Okazaki Fragment Processing," <i>Biochemistry</i> 35:9266-9277 (1996)	<input type="checkbox"/>
4	Hwang, et al. "The crystal structure of flap endonuclease-1 from <i>Methanococcus jannaschii</i> ," <i>Nature Structural Biology</i> 5:707-713 (1998)	<input type="checkbox"/>
5	Inchauspe, et al. "Use of Conserved Sequences from Hepatitis C Virus for the Detection of Viral RNA in Infected Sera by Polymerase Chain Reaction," <i>Hepatology</i> 14:595-600 (1991)	<input type="checkbox"/>
6	Ito, et al. "Compilation and alignment of DNA polymerase sequences," <i>Nucl. Acids Res.</i> 19:4045-4057 (1991)	<input type="checkbox"/>
7	Johnson, et al. "Requirement of the Yeast RTH1 5' to 3' Exonuclease for the Stability of Simple Repetitive DNA," <i>Science</i> 269:238-240 (1995)	<input type="checkbox"/>
8	Kaledin, et al. "Isolation and Properties of DNA Polymerase From the Extremely Thermophilic Bacterium <i>Thermus flavus</i> ," <i>Biokhimiya</i> 46(9):1576-1584 (1981)	<input type="checkbox"/>
9	Kim, et al. "Crystal structure of <i>Thermus aquaticus</i> DNA polymerase," <i>Nature</i> 376:612-616 (1995)	<input type="checkbox"/>
10	Klenk, et al. "The complete genome sequence of the hyperthermophilic, sulphate-reducing archaeon <i>Archaeoglobus fulgidus</i> " (1997) <i>Nature</i> 390, 364-370	<input type="checkbox"/>
11	Kornberg, DNA Replication, W.H. Freeman and Co., San Francisco, pp. 127-139 (1980)	<input type="checkbox"/>

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12	Kotler, et al. "DNA sequencing: Modular primers assembled from a library of hexamers or pentamers," Proc. Natl. Acad. Sci. USA 90:4241-4245 (1993)	<input type="checkbox"/>
13	Kwoh, et al. "Transcription-based amplification system and detection of amplified human immunodeficiency virus type 1 with a bead-based sandwich hybridization format," Proc. Natl. Acad. Sci., 86:1173-1177 (1989)	<input type="checkbox"/>
14	Kwok, et al. "Effects of primer-template mismatches on the polymerase chain reaction: Human immunodeficiency virus type 1 model studies," Nucl. Acids Res., 18:999-1005 (1990)	<input type="checkbox"/>
15	Laemmli "Cleavage of Structural proteins during the Assembly of the Head of Bacteriophage T4," Nature 277:680-685 (1970)	<input type="checkbox"/>
16	Landegren "Molecular mechanics of nucleic acid sequence amplification," Trends in Genetics 9:199-204 (1993)	<input type="checkbox"/>
17	Lawyer, et al. "Isolation, Characterization, and Expression in Escherichia coli of the DNA Polymerase Gene from <i>Thermus aquaticus</i> ," J. Biol. Chem. 264:6427-6437 (1989)	<input type="checkbox"/>
18	Lee, et al. "Polymerase chain reaction in detection of CMV DNA in renal allograft recipients," Aust. NZ J. Med. 22:249-255 (1992)	<input type="checkbox"/>
19	Leirmo, et al. "Replacement of Potassium Chloride by Potassium Glutamate Dramatically Enhances Protein-DNA Interactions in Vitro," Biochem. 26:2095-2101 (1987)	<input type="checkbox"/>
20	Li, et al. "Lagging Strand DNA Synthesis at the Eukaryotic Replication Fork Involves Binding and Stimulation of FEN-1 by Proliferating Cell Nuclear Antigen," J. Biol. Chem. 270:22109-22112 (1995)	<input type="checkbox"/>
21	Lieber "The FEN-1 family of structure-specific nucleases in eukaryotic DNA replication, recombination and repair" BioEssays 19:233-240 (1997)	<input type="checkbox"/>
22	Lindahl, et al. "Deoxyribonuclease IV: A New Exonuclease From Mammalian Tissues," P.N.A.S. 62:597-603	<input type="checkbox"/>

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23	Lindahl, et al. "Heat-Induced Depyrimidination of Deoxyribonucleic Acid in Neutral Solution," <i>Biochem.</i> 12:5151-5154 (1973)	<input type="checkbox"/>
24	Longley, et al. "Characterization of the 5' to 3' exonuclease associated with <i>Thermus aquaticus</i> DNA polymerase," <i>Nucl. Acids Res.</i> 18:7317-7322 (1990)	<input type="checkbox"/>
25	Lundquist, et al. "Transient Generation of Displaced Single-Stranded DNA during Nick Translation," <i>Cell</i> 31:53-60	<input type="checkbox"/>
26	Lyamichev, et al. "Polymorphism identification and quantitative detection of genomic DNA by invasive cleavage of oligonucleotide probes" <i>NATURE BIOTECHNOLOGY</i> , NATURE PUBLISHING, US, vol. 17, no. 3, March 1999 (1999-03), pages 292-296	<input type="checkbox"/>
27	Lyamichev, et al. "Structure-Specific Endonucleolytic Cleavage of Nucleic Acids by Eubacterial DNA Polymerases," <i>Science</i> 260:778-783 (1993)	<input type="checkbox"/>
28	Marmur, et al. "Strand Separation and Specific Recombination in Deoxyribonucleic acids: Biological Studies," <i>Proc. Natl. Acad. Sci. USA</i> 46:453-461 (1960)	<input type="checkbox"/>
29	Mathur, et al. "The DNA polymerase gene from the hyperthermophilic marine archaeabacterium <i>Pyrococcus furiosus</i> , shows sequence homology with $\alpha$ -like DNA polymerases," <i>Nucl. Acids Res.</i> 19:6952 (1991)	<input type="checkbox"/>
30	Mullis "The Polymerase Chain Reaction in an Anemic Mode: How to Avoid Cold Oligodeoxyribonuclear Fusion," <i>PCR Methods Applic.</i> , 1:1-4 (1991)	<input type="checkbox"/>
31	Mullis, et al. "Specific Synthesis of DNA in Vitro via a Polymerase-Catalyzed Chain Reaction," <i>Methods in Enzymology</i> 155:335-350 (1987)	<input type="checkbox"/>
32	Murante, et al. "The Calf 5'- to 3'-Exonuclease Is Also an Endonuclease with Both Activities Dependent on Primers Annealed Upstream of the Point of Cleavage," <i>J. Biol. Chem.</i> 269:1191-1196 (1994)	<input type="checkbox"/>
33	Murante, et al. "Calf 5' to 3' Exo/Endonuclease Must Slide from a 5' End of the Substrate to Perform Structure-specific Cleavage," <i>J. Biol. Chem.</i> 270:30377-30383 (1995)	<input type="checkbox"/>

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34	Murray, et al. "Structural and Functional Conversation of the Human Homolog of the <i>Schizosaccharomyces pombe</i> rad2 gene, Which is Required for Chromosome Segregation and Recovery from DNA Damage," <i>Molecular and Cellular Biology</i> 14:4878-4888 (1994)	<input type="checkbox"/>
35	Myers, et al. "Reverse Transcription and DNA amplification by a <i>Thermus thermophilus</i> DNA Polymerase," <i>Biochem.</i> 30:7661-7666 (1991)	<input type="checkbox"/>
36	Nelson, et al. "A General Method of Site-Specific Mutagenesis Using a Modification of the <i>Thermus aquaticus</i> Polymerase Chain Reaction," <i>Analytical Biochem.</i> 180:147-151 (1989)	<input type="checkbox"/>
37	Nielsen, et al. "Peptide nucleic acids (PNAs): Potential anti-sense and anti-gene agents," <i>Anticancer Drug Des.</i> 8:53-63 (1993)	<input type="checkbox"/>
38	Nolan, et al. "Kinetic Analysis of Human Flap Endonuclease-1 by Flow Cytometry," <i>Biochemistry</i> 35:11668-11677 (1996)	<input type="checkbox"/>
39	Nugent, et al. "Characterization of the Apurinic Endonuclease Activity of <i>Drosophila Rrpl</i> ," <i>Biochemistry</i> 32:11445-11452 (1993)	<input type="checkbox"/>
40	Perler, et al. "Intervening sequences in an Archaea DNA polymerase gene," <i>Proc. Natl. Acad. Sci. USA</i> 89:5577-5581 (1992)	<input type="checkbox"/>
41	Pontius, et al. "Rapid renaturation of complementary DNA strands mediated by cationic detergents: A role for high-probability binding domains in enhancing the kinetics of molecular assembly processes," <i>Proc. Natl. Acad. Sci. USA</i> 88:8237-8241 (1991)	<input type="checkbox"/>
42	Rao, et al. "Methanococcus jannaschii Flap Endonuclease: Expression, Purification, and Substrate Requirements," <i>J. of Bacteriology</i> 180:5406-5412	<input type="checkbox"/>
43	Reagan, et al. "Characterization of a Mutant Strain of <i>Saccharomyces cerevisiae</i> with a Deletion of the RAD27 Gene, a Structural Homolog of the RAD2 Nucleotide Excision Repair Gene," <i>J. of Bacteriology</i> 177:364-371 (1995)	<input type="checkbox"/>
44	Saiki, et al. "Primer-Directed Enzymatic Amplification of DNA with a Thermostable DNA Polymerase," <i>Science</i> 239:487-491 (1988)	<input type="checkbox"/>

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45	Sambrook, et al. Molecular Cloning. A Laboratory Manual, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, pp. 1.63-1.69 (1989)	<input type="checkbox"/>
46	Schenborn, et al. "A novel transcription property of SP6 and T7 RNA polymerases: dependence on template structure" Nucl. Acids. Res. 13:6223-6236, 6223 (1985)	<input type="checkbox"/>
47	Setlow, et al. "Deoxyribonucleic Acid Polymerase: Two Distinct Enzymes in One Polypeptide," J. Biol. Chem. 247:232-240 (1972)	<input type="checkbox"/>
48	Shen, et al. "Essential Amino Acids for Substrate Binding and Catalysis of Human Flap Endonuclease 1" J. of Biol. Chem. 271:9173-9176 (1996)	<input type="checkbox"/>
49	Shen, et al. "Flap endonuclease homologs in archaebacteria exist as independent proteins," TIBS 23 (1998)	<input type="checkbox"/>
50	Shen, et al. "Functional analysis of point mutations in human Flap Endonuclease-1 active site," Nucleic Acids Res. 25:3332-8 (1997)	<input type="checkbox"/>

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